



POST GRADUATE DIPLOMA IN PUBLIC HEALTH NUTRITION AND LIFESTYLE MEDICINE

PROSPECTUS

Health Services Academy, Islamabad-January 2022



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DIPLOMA IN PUBLIC HEALTH NUTRITION AND LIFESTYLE MEDICINE

COURSE OVERVIEW:

Nutrition and lifestyle play a crucial role in the global burden of morbidity and mortality. They are a measure of physical, social, and economic indicators of health; which determine the economic prosperity and development of a country. Nutrition in combination with lifestyle changes including physical activity, sleep regularization, stress management, fostering healthy relationships, and quitting unhealthy habits such as tobacco, alcohol and other harmful behaviors are critical for the health of individuals and communities.

Present-day health and nutrition challenges call for a paradigm shift in approach by focusing more on preventive, holistic, and patient centered solutions. Poor diet, lack of exercise, stress, inadequate sleep, and smoking are the primary modifiable risk factors for many chronic health conditions. However, these factors are often overlooked in the health system dominated by the treatment model.

Acknowledging the lack of knowledge and skills of health care professionals in recognizing common modifiable risk factors to disease, there is a need to train them to identify, understand and discuss health-promoting behaviors with the public.

This course introduces theoretical and practical knowledge and skills by combining public health nutrition and lifestyle medicine to multi -sectoral health care professionals. Both components gel together to inform health professionals about how they can transform population health by applying principles of nutrition and lifestyle interventions to prevent and treat nutrition and lifestyle-related diseases such as heart disease, diabetes, stroke, obesity, some neurological conditions, and some cancers. Overall, the students will gain the necessary real-world experiences, specialized expertise, and interdisciplinary public health knowledge needed to create a resilient culture of health for people of Pakistan. The course covers epidemiological, dietary, public health, social, and biological aspects of nutritional science and lifestyle medicine. The first half of the course covers foundations of public health and public health nutrition, nutritional epidemiology and biostatistics, fundamentals of human nutrition and applied nutrition. The second half of the course is built upon the science of exercise and physical activity, mental health and behavioral physiology including stress management and sleep regulation, and intervention and prevention for unhealthy habits such as substance abuse and relapse prevention.

The Diploma mainly focuses on nutritional and lifestyle problems in Pakistan and other low and middle-income countries – although skills and learning outcomes are widely applicable to all populations nationally and internationally. This curriculum is developed by consulting public health courses of international universities such as American college of lifestyle medicine, Harvard school of public health, Bloomberg School of public health, Emory University, London school of hygiene and tropical medicine, University of Chester etc. List and detail of course and reference documents are attached as annexation one.

Target audience: The target audience of this diploma are graduates from different disciplines such as doctors, nurses, pharmacists, dentists, nutritionists, exercise physiologists and other allied health or non-health professionals who wish to develop

skills in public health nutrition and lifestyle medicine research and teaching, operational work in the field or community nutrition and lifestyle programs, design nutrition and lifestyle intervention programs, including health promotion and nutrition and lifestyle education, and policy and program planning in nutrition and lifestyle.

COURSE LEARNING OBJECTIVES:

The course objective is to create a workforce of public health professionals with knowledge and skills of public health nutrition and lifestyle medicine to recognize, manage, communicate and research nutritional and lifestyle concerns at the individual, community and population level.

STUDENTS LEARNING OBJECTIVES:

By the end of this course, students should be able to:

- Demonstrate an advanced knowledge of Public health Nutrition and lifestyle medicine at biological, social and policy levels
- Identify common nutrition and lifestyle risk factors affecting health of individuals and communities.
- Evaluate critically, select and apply a range of appropriate research skills and techniques, including anthropometry, dietary analysis, statistics, epidemiology, research, computing & information retrieval.
- Interpret and synthesize different types of data used to analyze and assess nutritional and lifestyle problems at population and subpopulation levels
- Understand public health nutrition and lifestyle interventions such as exercise and nutrition prescriptions, stress management and resilience building, quitting smoking and smoking products, and evaluating sleep patterns.
- Comprehend the importance of promoting social connections, harnessing individuals' strengths, and using positive emotions such as gratitude and laughter as medicine to empower individuals to reach their optimal health and wellbeing
- Disseminate research findings in a range of formats to experts and the general population.
- Identify and formulate appropriate responses and intervention strategies to address nutritional and lifestyle issues, considering the public health and social policy contexts
- Apply knowledge of effective teamwork and communication skills to solve problems and achieve goals

PROGRAM LENGTH: One-year program comprising 24 credit hours

Duration of semester = 6 months

Diploma= 2 semesters

Certificate in Public health nutrition= 1 semester

Certificate in lifestyle medicine= 1 semester

1st Semester

Course Code	Course Title	Credit Hours	Total Marks
CPHN01	Foundations of Public Health	3	150
CPHN02	Nutritional Epidemiology and Applied Research	3	150
CPHN03	Fundamentals of Public Health Nutrition	3	150
CPHN04	Community Based Nutrition Interventions	3	150

2nd Semester

Course Code	Course Title	Credit Hours	Total Marks
LSM05	Introduction to Lifestyle Medicine	3	150
LSM06	Intervention and Prevention	3	150
LSM07	Mental Health and Behavioral Psychology	3	150
LSM08	Physical Activity	3	150

DETAIL OF COURSES

Foundations of Public Health

Course Description

This interdisciplinary course provides an opportunity for students to investigate the fundamental determinants and the complex set of intermediate factors that underpin health and disease status in different populations at various scales of analysis. Using public health and healthcare delivery as the overarching framework, the course will cover foundational elements of public health, including, but not limited to, its history and impact, the importance of health equity and human rights, and Population dynamics and various static and dynamic measures of populations, how social determinants manifests and is perpetuated within public health and healthcare systems. The course content highlights core competencies and crosscutting themes essential for successful public health intervention programs. These theoretical linkages, following exposure to how public health practice is organized in the world, will hopefully prepare students to explore more deeply within the curriculum organized around the core disciplines of biostatistics, epidemiology, social and behavioural sciences, and health policy and management.

Course Objectives

After successfully completing the course, students will be able to:

1. Compare and critique public health and healthcare organizations, systems, and approaches.
2. Evaluate the evolution and impact of public health programs and healthcare delivery on population health outcomes.
3. Define the core functions of public health and explain how each contributes to primary, secondary, and tertiary prevention of diseases in different settings.
4. Integrate historical and social justice lenses to describe major causes and trends of population health.
5. Apply concepts of diversity, equity and inclusion to function as an effective member of an inter- professional team.

Recommended Readings

1. Raymond L. Goldsteen, Karen Goldsteen and Terry L. Dwelle. Introduction to public health: promises and practices. 2015. New York: Springer Publishing Company.
2. Walley, J., & Wright, J. (2010). Public health: an action guide to improving health. Oxford University Press.
3. Marmot, M., Wilkinson, R. (2016) Social Determinants of Health and Equity
4. Tulchinsky, T.H., & Varavikova, E.A. (2014). The New Public Health: An Introduction for the 21st Century: Elsevier Science.
5. Brassington, I. (2007). Public Health and Globalisation: Why a National Health Service is Morally Indefensible: Imprint-academic.com.
6. Brownson, R.C., Baker, B.A., Leet, T.L., Gillespie, K.N. (2003). Evidence-based public health. New York, NY: Oxford University Press.

7. Detels, R., McEwen, J., Beaglehole, R., Tanaka, H., (eds). (2002). Oxford textbook of public health: the practice of public health, 4th ed. Oxford: Oxford University Press
8. Fidler, D. P. (2001). The globalization of public health: the first 100 years of international health diplomacy. Bull World Health Organ, 79(9), 842-849.
9. Detels R, Beaglehole R, Lansang MA, Gulliford M. Oxford textbook of public health: Oxford University Press; 2011.
10. Carr S, Unwin N, Pless-Mulloli T. An introduction to public health and epidemiology: McGraw-Hill Education (UK); 2007.
11. Poston Jr DL, Bouvier LF. Population and society: An introduction to demography: Cambridge University Press; 2010.
12. Santerre RE, Neun SP. Health economics: South-Western; 2012.

Nutritional Epidemiology and Applied Research

Course Description

In this course, students will learn and apply basic concepts of nutritional epidemiology and applied research to multiple domains of public health. This course provides a foundation of topics in epidemiology through examining nutritional diseases, chronic diseases, and general health. The course will cover applications of epidemiologic methods and procedures to the study of the distribution and determinants of health and diseases, morbidity, injuries, disability, and mortality in populations. Other topics include major nutritional public health concerns across the globe and nutrition research

Course Objectives

Upon completion of the course, students will be able to

1. Understand the concept, basic principles and methods of Nutritional Epidemiology, Epidemiological Studies and its application and uses in controlling Public Health Nutrition problems
2. Explain and practise some key techniques in epidemiology and their broad applicability to public health nutrition
3. Identify and understand public health nutrition issues and problem in terms of context and magnitude
4. Develop critical insights to understand and critique quantitative research designs used in nutrition research and interpret the results.

Recommended Reading

1. Gordis, L. (2008). Epidemiology. 4th ed. Philadelphia, PA: WB Saunders Company.
2. Daniel WW, Cross CL. Biostatistics: a foundation for analysis in the health sciences: Wiley; 2018.
3. L. Epidemiology. Philadelphia: WB saunders; 2000.
4. Willett W. Nutritional epidemiology: Oxford university press; 2012.
5. Sullivan LM. Essentials of biostatistics in public health: Jones & Bartlett Learning; 2017.

Fundamentals of Public Health Nutrition

Course Description

In this course, students will explore the principles and importance of public health nutrition. They will study the core concepts of food and nutrition like basic micro and macronutrients, their deficiencies, basic disease pathology and role of nutrition across the life span. They will learn the nutritional assessment methods, dietary guidelines and their application in public health and community setting.

Course Objectives

Upon completion of the course, students will be able to

1. Understand the importance and basic principles Public health Nutrition
2. Identify and understand the core concepts of nutrition in context of public health nutrition issues and problems
3. Explore advanced metabolic and physiological actions of human body in different life cycles
4. Explain and practise some key methods in nutritional assessment and their implementation in public health nutrition settings

Recommended Reading

1. Barasi M. Nutrition at a Glance: John Wiley & Sons; 2013.
2. Brown JE. Nutrition through the life cycle: Cengage Learning; 2016.
3. Insel PM. Discovering nutrition: Jones & Bartlett Publishers; 2013.
4. Whitney E, Rolfes SR. Understanding nutrition: Cengage Learning; 2018.

Community Based Nutrition Interventions

Course Description

The aim of this course is to train students in handling nutritional problems at community level. They will learn practical approaches to successful behavior modification strategies along with an advanced look at nutrition in emergencies, nutritional interventions and management in malnutrition and in infectious and non-communicable diseases. The field visits will enable them to understand the practical implications in preventing and managing nutritional problems at the community level

Course Objectives

After the completion, students will be able to

1. Understand the impact of the environment and society on nutrition related behaviors
2. Apply evidence-based nutrition principles to the prevention and treatment of malnutrition and other nutritional problems
3. Learn different techniques and strategies to use in advocacy for public health nutrition issues
4. Equip themselves in managing nutritional problems in different nutritional settings, for example, emergencies

Reading Material

1. Mahan LK, Raymond JL. Krause's food & the nutrition care process-e-book: Elsevier Health Sciences; 2016.
2. Gandy J. Manual of dietetic practice: John Wiley & Sons; 2019.
3. Garrow J, James W, Ralph A. Nutrition in Prevention and Treatment of Disease. Translated by Ebrahimov S, Mohamadizadegan M, Mousavi Yazdanpanah M, Saber M, Khabbaz N Tehran: Kamal Danesh Pub. 2000:10-24.
4. Gibson RS. Principles of nutritional assessment: Oxford university press, USA; 2005.
5. Bean A. The complete guide to sports nutrition: Bloomsbury Publishing; 2017.
6. Contento IR. Nutrition education: linking research, theory, and practice. 2007.

Introduction to Lifestyle Medicine

Course Description

In this course, students will be able to study lifestyle medicine is an evidenced-based specialty, and review research basics including the value of randomized, controlled studies, observational studies, longitudinal studies, and prospective and retrospective studies, as well as case studies. They will explore how the development of vaccines and antibiotics changed the landscape of medicine, and how the Industrial Revolution played a part in the spread of lifestyle-related diseases. In addition, the economics of lifestyle medicine are addressed, looking at the cost and burden of chronic diseases such as diabetes, obesity, cardiac disease, and metabolic disorder.

Course Objectives

By the end of the course, the participant will be able to:

1. Define lifestyle medicine.
2. Explain the concept of evidence-based lifestyle medicine.
3. Summarize the importance of lifestyle medicine for individuals, society, and healthcare.
4. Describe the history, economics, and competencies attendant to lifestyle medicine.

Reading Material

1. Frates B, Bonnet JP, Joseph R, Peterson JA. Understanding lifestyle medicine. In: Frates B, ed. Lifestyle Medicine Handbook: An Introduction to the Power of Healthy Habits. Monterey, CA: Healthy Learning; 2021:17-44.
2. Egger G, Binns A, Rossner S. Chapter 1 Introduction to lifestyle medicine. In: Egger G, Binns A, Rossner S. Lifestyle Medicine: Managing Diseases of Lifestyle in the 21st Century. 2nd ed. North Ryde, Australia: McGraw-Hill; 2010:1–10.
3. DeCourten M, Egger G. Chapter 2 The epidemiology of chronic disease. In: Egger G, Binns A, Rossner S. Lifestyle Medicine: Managing Diseases of Lifestyle in the 21st Century. 2nd ed. North Ryde, Australia: McGraw-Hill; 2010:11–24.
4. Frates EP. Interview With Award Winners From ACLM 2015: Dean Ornish and John Kelly, Nashville, Tennessee. Am J Lifestyle Med. 2016.
5. Dysinger WS. Lifestyle medicine competencies for primary care physicians. Virtual Mentor. 2013;15(4):306–310. doi:10.1001/virtualmentor.2013.15.4.medu1-1304.
6. Katz D. Lifestyle is medicine. Virtual Mentor. 2013;15(4):286–292. doi:10.1001/virtualmentor.2013.15.4.ecas1-1304.
7. Fahey TD, Insel PM, Roth WT. Introduction to Wellness, Fitness, and Lifestyle Management In: Fahey TD, Insel PM, Roth WT. Fit and Well: Core Concepts and Labs in Physical Fitness and Wellness. 9th ed. New York: McGraw Hill Higher Education; 2010: 1-26
8. Diabetes Prevention Research Group. Reduction in the incidence of type 2 diabetes with lifestyle intervention or Metformin. New England Journal of Medicine. 2002;346(6):393–403. doi: 10.1056/nejmoa012512.

9. Subramanyam R. Art of reading a journal article: Methodically and effectively. *Journal of Oral and Maxillofacial Pathology: JOMFP*. 2013; 17(1): 65-70. Doi: 10.4103/0973-029X.110733.

Intervention and Prevention

Course Description

In this course, basic nutritional assessment methods and possible interventions will be explored. Research on how healthy whole foods, plant based diet (WFPB) diet can prevent, treat, and reverse disease is emphasized. The notion that more intensive dietary changes (specifically, following WFPB diet) can potentially offer superior health outcomes (i.e., disease reversal) is discussed. The students will also understand the meaning and impact of substance use disorders, and the use of motivational interviewing techniques for their cessation.

Course Objectives

By the end of this course, participants will be able to:

1. Identify the role that nutrition plays in lifestyle medicine.
2. Describe the key factors associated with a healthy eating pattern.
3. Evaluate the diet spectrum, ranging from the standard American diet (SAD) to the whole food, plant-based (WFPB) diet.
4. Discuss the need to focus on behaviour change, with regard to weight management.
5. Address controversies in defining addiction and discuss under what circumstances certain behaviour may move from healthy to unhealthy.
6. Discuss the signs and symptoms of various substance use.
7. Invite the students to consider the negative effects of smoking, alcohol consumption, and the use of other drugs.
8. Review different ways in which the Coach Approach may help patients with substance use disorder.

Reading Material

1. Frates B, Bonnet JP, Joseph R, Peterson JA. The nutrition health connection. In: Frates B, ed. Lifestyle Medicine Handbook: An Introduction to the Power of Healthy Habits. Monterey, CA: Healthy Learning; 2021:173-228.
2. Price JM, Egger G. Chapter 10 Nutrition for the Non Dietitian. In: Egger G, Binns A, Rossner S. Lifestyle Medicine: Managing Diseases of Lifestyle in the 21st Century. 2nd ed. North Ryde, Australia: McGraw-Hill; 2010:127–139.
3. Egger G, Pearson S. Chapter 11 Fluid, Fitness, and Fatness. In: Egger G, Binns A, Rossner S. Lifestyle Medicine: Managing Diseases of Lifestyle in the 21st Century. 2nd ed. North Ryde, Australia: McGraw-Hill; 2010:140–150.
4. King N, Egger G. Chapter 12 Behavioral Aspects of Nutrition. In: Egger G, Binns A, Rossner S. Lifestyle Medicine: Managing Diseases of Lifestyle in the 21st Century. 2nd ed. North Ryde, Australia: McGraw-Hill; 2010:151–164.
5. U.S. Departments of Health and Human Services, U.S. Departments of Agriculture. Dietary Guidelines for Americans 2015-2020, Executive Summary, (2015). <https://health.gov/dietaryguidelines/2015/guidelines/executive-summary/>.
6. Accessed June 10, 2020.
7. Katz DL, Meller S. Can we say what diet is best for health? Annual Review of Public Health. 2014;35(1):83–103. doi: 10.1146/annurev-publhealth-032013-182351.
8. Herrero M, Havlík P, Valin H, et al. Biomass use, production, feed efficiencies, and greenhouse gas emissions from global livestock systems. Proceedings of

- the National Academy of Sciences of the United States of America. 2013;110(52):20888-20893. doi:10.1073/pnas.1308149110.
9. Martindale W. Is a vegetarian diet really more environmentally friendly than eating meat? CNN The Conversation on February 6, 2017. <http://www.cnn.com/2017/02/06/health/vegetarian-diet-conversation/>.
 10. How Not To Die: The Role of Diet in Preventing, Arresting and Reversing our Top 15 Killers NutritionFacts.Org [https:// nutritionfacts.org/video/how-not-to-die/](https://nutritionfacts.org/video/how-not-to-die/). Accessed June 10, 2020.
 11. Frates B, Bonnet JP, Joseph R, Peterson JA. Substance Abuse. In: Frates B, ed. Lifestyle Medicine Handbook: An Introduction to the Power of Healthy Habits. Monterey, CA: Healthy Learning; 2021:397-430.
 12. Egger G, Binns A, Rossner, S. Chapter 17. In: Lifestyle Medicine. 2nd ed. North Ryde, Australia:McGraw-Hill; 2010.
 13. Dwyer-Clonts M, Frates E. Suzuki J. Managing Problem Drinking: Screening Tools and Brief Interventions for Primary Care Physicians. Am J Lifestyle Med, 2016. Available here: Week 11 - AJLM-ManagingProblemDrinking-DwyerClonts+Frates.pdf.
 14. Alcohol Screening Tools available at National Institute of Alcohol Abuse and Alcoholism Web site. Available at [http:// pubs.niaaa.nih.gov/publications/arh28-2/78-79.htm](http://pubs.niaaa.nih.gov/publications/arh28-2/78-79.htm)
 15. Gearhardt, A, Corbin W, Brownell KD. Preliminary Validation of the Yale Food Addiction Scale. Appetite, 2009;52:430-436.
 16. Yale Food Addiction Scale. Available at: [http://abcnews.go.com/Health/quiz-addicted-food/ story?id=14406763](http://abcnews.go.com/Health/quiz-addicted-food/story?id=14406763).
 17. Nicotine Addiction and Assessment. Fagerstrom Test for Nicotine Dependence, first published in: Fagerstrom K, Heatherton T, Kozlowski L. Nicotine Addiction and its Assessment. Ear, Nose, and Throat Journal, 1990; 69(11):763-765. Available at: http://www.dartmouth.edu/~thlabpubs/90_Fagerstrom_etal_ENTJ.pdf.
 18. Various substance/area-specific addiction scales: Global Addiction Conference for alcohol, smoking, drugs, food, sex and more. Available at <http://www.globaladdiction.org/scales.php>.

Mental Health and Behavioural Psychology

Course Description

This course will introduce different techniques that practitioners can use to empower patients, including change talk with motivational interviewing and finding the positive with appreciative inquiry. The 5-step model for creating a collaborative change will be reviewed. It will further explore different mindfulness stress reduction meditation practices and how sleep can be a connection between a healthy body and mind.

Course Objectives

After the course, the students will be able to

1. Integrate motivational interviewing, appreciative inquiry, and the social-ecological model of change into practice.
2. Demonstrate collaboration as the key piece of goal setting.
3. Recognize the importance of evidence-based information concerning sleep.
4. Identify the key factors that inhibit sleep.
5. Describe the connection between peace of mind and health.
6. Compare and contrast mindfulness, meditation, and relaxation.

Reading Material

1. Frates B, Bonnet JP, Joseph R, Peterson JA. Peace of Mind with Meditation, Mindfulness, and Relaxation. In: Frates B, ed. Lifestyle Medicine Handbook: An Introduction to the Power of Healthy Habits. Monterey, CA: Healthy Learning; 2021:319-347.
2. Stahl JE, Dossett ML, LaJoie AS, Denninger JW, Mehta DH, Goldman R, et al. (2015) Relaxation Response and Resiliency Training and Its Effect on Healthcare Resource Utilization. PLoS ONE 10(10): e0140212. <https://doi.org/10.1371/journal.pone.0140212>.
3. Galla, BM, O'Reilly GA, Kitil, MJ, Smalley SL Black DS, Community-Based Mindfulness Program for Disease Prevention and Health Promotion: Targeting Stress Reduction American Journal of Health Promotion 2015;30(1):36 -41.
4. Laneri, D., Krach, S., Paulus, F. M., Kanske, P., Schuster, V., Sommer, J. and Müller-Pinzler, L. Mindfulness meditation regulates anterior insula activity during empathy for social pain. Hum. Brain Mapping. 2017;. doi:10.1002/hbm.23646.
5. Haines J, Spadaro KC, Choi J, Hoffman LA, Blazeck AM. Reducing stress and anxiety in caregivers of lung transplant patients: benefits of mindfulness meditation. Int J Organ Transplant Med 2014;5:50-6.
6. Jon Kabat-Zinn, PhD Guided Mindfulness Meditation Series 3 – (Excerpt from Introduction).
7. Frates B, Bonnet JP, Joseph R, Peterson JA. Sleep Matters. In: Frates B, ed. Lifestyle Medicine Handbook: An Introduction to the Power of Healthy Habits. Monterey, CA: Healthy Learning; 2021:261-272.
8. West C, Egger G. Chapter 18 To Sleep Perchance...To Get Everything Else Right. In: Egger G, Binns A, Rossner S. Lifestyle Medicine: Managing Diseases of Lifestyle in the 21st Century. 2nd ed. North Ryde, Australia: McGraw-Hill; 2010:226–241.

9. Division of Sleep Medicine at Harvard Medical School, WGBH Educational Foundation. Assess your sleep needs. Get Sleep <http://healthysleep.med.harvard.edu/need-sleep/what-can-you-do/assess-needs>. Updated December 15, 2008. Accessed June 10, 2020.
10. Buysse DJ. Sleep Health: Can We Define It? Does It Matter? *Sleep* 2014;37(1):9-17. doi:10.5665/sleep.3298.
11. Havekes R, Park AJ, Tudor JC, et al. Sleep deprivation causes memory deficits by negatively impacting neuronal connectivity in hippocampal area CA1. Takahashi JS, ed. *eLife*. 2016;5:e13424. doi:10.7554/eLife.13424.
12. Touitou Y, Reinberg A, Touitou D. Association between light at night, melatonin secretion, sleep deprivation, and the internal clock: Health Impacts and mechanisms of circadian disruption. *Life Sciences* 2017; 173: 94-106.
13. Kahn MS, Aouad R. The effects of insomnia and sleep loss on cardiovascular disease. *Sleep Medicine Clinics*. 2017;12(2): 167-177.

Physical Activity

Course Description

In this course, understanding the definitions and differences between types of physical activity is stressed with a special appreciation for lifestyle exercise. The four parts of the exercise prescription (FITT= frequency, intensity, time, and type) are introduced as a framework for exercise counseling, to be used along with the Coach Approach for behavior change. Updated recommendations for pre- screening patients, and specific exercise prescriptions for diseases and conditions including heart disease, diabetes, obesity, arthritis, osteoporosis, and multiple sclerosis are explored.

Course Objectives

By the end of this module, participants will be able to:

1. List the definitions of exercise
2. Recall the physical activity guidelines.
3. Utilize a framework to make exercise prescriptions.
4. Understand the positive and negative factors associated with physical activity

Reading Material

1. Frates B, Bonnet JP, Joseph R, Peterson JA. Improving health through exercise. In: Frates B, ed. Lifestyle Medicine Handbook: An Introduction to the Power of Healthy Habits. Monterey, CA: Healthy Learning; 2021:119-175.
2. Egger G, Climstein M. Chapter 8 Physical Activity: Generic Prescription for Health. In: Egger G, Binns A, Rossner S. Lifestyle Medicine: Managing Diseases of Lifestyle in the 21st Century. 2nd ed. North Ryde, Australia: McGraw-Hill; 2010:91–110.
3. Egger G, Climstein M. Chapter 9 Physical Activity: Specific Prescriptions for Disease Management and Rehabilitation. In: Egger G, Binns A, Rossner S. Lifestyle Medicine: Managing Diseases of Lifestyle in the 21st Century. 2nd ed. North Ryde, Australia: McGraw-Hill; 2010:111–126.
4. 2008 Physical Activity Guidelines. Office of Disease Prevention and Health Promotion. <http://www.health.gov/paguidelines/guidelines/>. Accessed June 10, 2020.
5. The Executive Summary of the Advisory Report and selected passages of interest to the student-- for the student to decide.
6. Naci H, Ioannidis JPA. Comparative effectiveness of exercise and drug interventions on mortality outcomes: Metaepidemiological study. BMJ. 2013; 347(oct01 1): f5577. doi:10.1136/bmj.f5577.
7. Hallowell E, Frates EP. Mini Distraction #20: Why walking is powerful medicine. 2016. Distraction. Available at: <http://www.distractionpodcast.com/2016/08/03/minidistraction-20-why-walking-is-powerful-medicine/> Published August 3, 2016.
8. Frates E, McBride Y, Bonnet J. It's fun: A Practical algorithm for counseling on the exercise prescriptions: A method to mitigate the symptoms of depression, anxiety, and stress- related illness. Clinical and Experimental Psychology. 2016;02(116). doi:10.4172/2471- 2701.1000116.
9. Riebe D, Franklin BA, Thompson PD, et al. Updating ACSM's recommendations for exercise preparticipation health screening. 2015. <https://www.acsm.org/docs/default-source/files-for-resource>

- library/updating_acsm_s_recommendations_for_exercise-28-(1).pdf?sfvrsn=3aa47c01_4. Accessed July 6, 2020.
10. DocMikeEvans. 23 and 1/2 hours: What is the single best thing we can do for our health? [Video]. Youtube. <https://www.youtube.com/watch?v=aUalnS6HIGo> Published December 2, 2011. Accessed June 10, 2020.

DELIVERY METHODS:

The contents of the course will be delivered using interactive learning strategies including but not limited to

- Lectures
- Group Discussions
- PowerPoint Presentations
- Web Based Learning using the latest version of LMS
- Video Clips
- Class activities: Class participation (individual and group).
- Additional strategies can be adopted to enable students to pass the course.

EVALUATION PROCEDURES AND GRADING CRITERIA

Grades are not negotiable and are awarded according to the following criteria:

S No	Marks in %age	Grades	GPA
1.	80 - 100	A	4.00
2.	75 - 79.99	A-	3.67
3.	70 - 74.99	B+	3.33
4.	65 - 69.99	B	3.00
5.	60 - 64.99	B-	2.67
6.	55 - 59.99	C+	2.33
7.	50 - 54.99	C	2.00
8.	Below 50	F	0.00
9	W	Withdrawal	
10	I	Incomplete	

ELIGIBILITY CRITERIA

Basic Qualifications

The candidate should possess one of the following qualifications or an equivalent degree from a recognized university or accrediting body.

- MBBS (Bachelor of Medicine & Bachelor of Surgery)
- BDS (Bachelor of Dental Surgery)
- B. Pharmacy (Bachelor's in Pharmacy)/ D. Pharmacy (Doctor of Pharmacy) or M. Pharmacy (Master's in Pharmacy)
- BSc Nursing (Bachelor of Sciences in Nursing)
- DVM (Doctor of Veterinary Medicine)
- Master's Degree in a relevant subject such as Anthropology, Business Administration, Economics, Human Nutrition, Microbiology, Physiology, Psychology, Public Health Engineering, Sociology, Statistics and Zoology

WORK EXPERIENCE

The candidate should preferably have one years of full-time work experience (in the case of medical doctors, after the house job) in public health-related fields in either the private sector or the public sector, including the armed forces. For students performing extra-ordinary during viva/interviews, the admission committee can waive off the experience.

AGE LIMIT

There is no Age-limit restrictions for admission in this Program.

DPHN and LSM ADMISSIONS

HSA has its own Admissions Committee, comprising of Program Coordinator, the Registrar, a Senior Faculty Member, and one nominated alumnus/alumna. The Admissions Committee has the responsibility for the selection of applicants to be admitted to the Program. It establishes procedures for the timely review of applications to the Program. Deferrals of admission are at the discretion of the Admissions Committee. The selected candidates from the Admissions Committee will be exempted from any test or interview.

FINAL SELECTION

The applicant's acceptance is contingent upon the receipt of all required documents including official transcripts. The Admissions Committee is responsible for identifying those students with missing documents and/or credentials, which do not meet eligibility standards.

COURSE FEE

Course Fee is Rs. 60,000 per semester. Total fee for One Year Diploma is Rs.120, 000 which is payable in two instalments

Faculty Members

1. Prof. Dr. Shahzad Ali Khan

Prof. Dr. Shahzad is Vice Chancellor of Health Services Academy. He holds Medical degree along with MSc. in Public health and Finance and PhD in Management Sciences. He carries a vast teaching and research experience both at undergraduate and graduate level in the field of Health Financing and Health Economics. His research work is extensively disseminated through more than 130 peer-reviewed publications in national and international journals



2. Prof. Dr. Mubashir Hanif

Prof. Dr. Hanif is the research scholar and the Director ORIC in Health Services Academy. He holds a PhD degree and has over 20 years of academic experience in European Union and North America. He directed and managed different educational/research projects, and has more than 100 publications in national and international journals



3. Prof. Dr. Shagufta Feroze

Dr. Shagufta Feroz is the Director RIPHAH Institute of Lifestyle Medicine, RIPHAH University. Recently she has joined HAS as an adjunct Professor and will serve as an advisor for this course. She has specialized in Family Medicine, done two online PhDs from USA in Holistic Nutrition and Integrative Medicine. She has certifications in lifestyle medicine, physician leadership, and positive psychology from Harvard University USA. Her independent research called "Synchronized Lifestyle Modification Program-SLP". and preventive health along with disease reversal.



4. Nadia Raees

Nadia Raees is the Program coordinator for this course. She holds MPhil degree in International Health with majors in Nutrition from Norway, and has 6 years of working experience in the field of health and nutrition



5. Dr. Tehzeeb Zulfiqar

Dr. Zulfiqar is a highly motivated Medical Epidemiologist, Public Health researcher, academic and clinician with international experience in Research, Obesity Management and Public Health. She has over 20 years' experience of teaching and research in Pakistan and Australia. She has been involved in high profile research with policy impact.



6. Dr. Katrina Ronis

Dr. Katrina A. Ronis has over thirty-five years work experience in the health sector (private and public). She has worked in Australia, Saudi Arabia and Ireland in human nutrition (clinical, community and policy development). From 2005 until 2012 she worked with the local NGO Heart-file in Islamabad as Senior Public Health Officer. Since the completion of her Doctorate in Public Health in 2012 she has worked at Health Services Academy (HSA) as Associate Professor, teaching in the PhD Program, Health Systems, Health Policy and Health Promotion courses. She is currently Adjunct Faculty at HSA.



7. Dr. Khawaja Masood

Dr. Khawaja Masood Ahmed is the National Coordinator of the Nutrition and National Fortification Alliance of the Ministry of National Health Services, Regulations and Coordination, Government of Pakistan. Dr. Khawaja has over 30 years of experience working in health and nutrition.



8. Dr. Noreen Nishtar

Dr. Nishtar is a Medical doctor and Public Health expert with 15 years of extensive experience in Nutrition; Maternal and child health care; implementing large scale health and nutrition programmes; Research, Advocacy, Health Systems; Policy formulation and analysis; Grant handling and proposal writing; Surveillance and Monitoring and Polio Surveillance in Pakistan and have managed and coordinated in numerous projects and programmes in Pakistan for National and International organizations



9. Ms. Saba Shuja

Saba Shuja is a Nutrition Officer for UNICEF Pakistan and a public health professional with over 15 years' experience of working in health and nutrition both in emergency and developmental contexts with the United Nations (UN) and other humanitarian organisations.



10. Dr. Irshad Danish

Dr. Danish is an Advocacy Advisor at Nutrition International and Chairman SUN Civil Society Network. He has more than 20 years work experience in the field of Health and Nutrition

11. Ms. Sara

Miss Sara is a PhD Econometrics scholar and statistician at NIH with more than three years of experience in research. She has been a co-author of funded research projects with several national and international research publications. Her expertise lies in sampling techniques, Statistical modeling, survival analysis, study designs, and Machine learning techniques. She has immense fluency in statistical software like R, Python, Stata, SSPS, Eview's, and Oxmetrics.



12. Dr. Abdul Momin

Dr. Abdul Momin is a Registered Dietitian/Nutritionist and Public Health Specialist with extensive experience across all areas of Nutrition and Public health. He is a double Bachelor's and holds a Post-graduation in Public Health and a Doctorate in Food & Nutrition. He is currently working as Assistant Professor at the Department of Nutrition & Dietetics, National University of Medical Sciences, Rawalpindi. He is also rendering his services as a Consultant Clinical Dietitian at Ali Medical Centre, F-8, Islamabad. Dr. Abdul Momin has got more than 8 years of teaching and research experience. To date, he has published 9 research papers in peer-reviewed journals of international repute.

13. Ms. Anum Nazir

Anum Nazir is a PhD scholar and Clinical and Public Health Nutritionist. She is a lecturer at the department of Dietetics and Nutrition at the University of Faisalabad. Her areas of expertise are Nutritional Epidemiology, Nutraceuticals Functional Foods and Public Health Nutrition



14. Dr. Hajra Ahmed

Dr. Hajra Ahmed is a Chairperson/ Associate Professor at the Department of Environmental Design, Health and Nutritional Sciences at AIOU. She holds PhD in Foods and Nutrition and has over 30 years of teaching and research experience, along with 30 publications in national and international journals.